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PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION
(PCT Rule 61.2)

To:

Assistant Commissioner for Patents
 United States Patent and Trademark
 Office
 Box PCT
 Washington, D.C.20231
 ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 11 February 2000 (11.02.00)
International application No. PCT/GB99/01772
International filing date (day/month/year) 04 June 1999 (04.06.99)

Applicant's or agent's file reference
A25793/WO

Priority date (day/month/year)
05 June 1998 (05.06.98)

Applicant

BRISCOE, Robert, John et al

1. The designated Office is hereby notified of its election made:

in the demand filed with the International Preliminary Examining Authority on:

20 December 1999 (20.12.99)

in a notice effecting later election filed with the International Bureau on:

2. The election was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
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PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference A25793/WO	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/GB99/01772	International filing date (day/month/year) 04/06/1999	Priority date (day/month/year) 05/06/1998	
International Patent Classification (IPC) or national classification and IPC H04L12/00			
Applicant BRITISH TELECOMMUNICATIONS et al			

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 12 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I Basis of the report
- II Priority
- III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV Lack of unity of invention
- V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI Certain documents cited
- VII Certain defects in the international application
- VIII Certain observations on the international application

Date of submission of the demand 20/12/1999	Date of completion of this report 21.09.2000
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Agreda Labrador, A Telephone No. +49 89 2399 8263



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I. Basis of the report

1. This report has been drawn on the basis of (substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.):

Description, pages:

1-25 as originally filed

Claims, No.:

1-39 as originally filed

Drawings, sheets:

1/14-14/14 as originally filed

2. The amendments have resulted in the cancellation of:

the description, pages:
 the claims, Nos.:
 the drawings, sheets:

3. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

the entire international application.
 claims Nos. 32, 33, 38.

because:

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the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

no international search report has been established for the said claims Nos. .

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:
 - restricted the claims.
 - paid additional fees.
 - paid additional fees under protest.
 - neither restricted nor paid additional fees.
2. This Authority found that the requirement of unity of invention is not complied and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
 - complied with.
 - not complied with for the following reasons:

see separate sheet
4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:
 - all parts.
 - the parts relating to claims Nos. .

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims 4-6, 8, 10-14, 16-31, 35, 37, 39
	No: Claims 1-3, 7, 9, 15, 34, 36
Inventive step (IS)	Yes: Claims
	No: Claims 1-31, 34-37, 39
Industrial applicability (IA)	Yes: Claims 1-39
	No: Claims

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

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Reference is made to the following documents, cited in the search report:

- D1: WO 98 02828 A (BELLSOUTH CORP) 22 January 1998
- D2: WO 95 27385 A (TELCO SYSTEMS INC) 12 October 1995
- D3: SLOMAN M S ET AL: 'DOMAIN MANAGEMENT AND ACCOUNTING IN AN INTERNATIONAL CELLULAR NETWORK' INTEGRATED NETWORK MANAGEMENT, III PROCEEDINGS 3RD INTERNATIONAL SYMPOSIUM, 18-23 APRIL 1993, 18 April 1993, pages 193-206, XP000199363
- D4: ESTRIN D ET AL: 'DESIGN CONSIDERATIONS FOR USAGE ACCOUNTING AND FEEDBACK IN INTERNETWORKS' COMPUTER COMMUNICATIONS REVIEW, vol. 20, no. 5, 1990-10-01, pag. 56-66, XP000167877 ISSN: 0146-4833

Re Item III: Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. **No meaningful opinion** can be formed on the novelty, inventive step and industrial applicability of present claims 32, 33 and 38 (Article 34(4)(a)(ii) PCT, see also PCT Guidelines C-VI-5.11) because none of these claims specify any technical feature required for the definition of the invention.

For further information, see Items VIII.3 and VIII.4 of the present report.

Re Item IV: Lack of unity of invention

1. The claims do not appear to meet a priori the requirements for unity of invention (Rule 13.1 PCT) because they are not so linked as to form a single inventive concept. There seems to be at least **three** different inventive-concept-linked groups:

- independent claims 1, 2, 29, 31 and 34 and corresponding dependent claims, the subject-matter of which relates to the measurement of network resources at customer terminals and the subsequent calculation of a network usage charge;
- independent claims 26 and 37 and corresponding dependent claims, the subject-matter of which relates to a router for use in a packet network to schedule packets

- differently depending on their respective class of service;
- independent claim 27 and corresponding dependent claims, the subject-matter of which relates to the determination of a price for a data transmission between two adjacent domains.

Re Item V: Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Independent claim 1 does not meet the requirements of Articles 33(1) and (2) PCT because its subject-matter is not novel.

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1 and this document shows the following features thereof (applying the terminology of present claim 1 and references in parenthesis relating to D1):

A method of operating a communications network (page 9, line 8) comprising:
a) measuring at each of a plurality of customer terminals usage by the respective customer terminal of network resources (page 9, lines 10-13); and
b) subsequently calculating a network usage charge from the measurement data generated by step (a) (page 9, lines 15-18).

This is the exact wording of claim 1, the subject-matter of which is consequently not novel (Articles 33(1) and (2) PCT).

2. The subject-matter of independent method claim 2 and independent apparatus claim 34 corresponds essentially to that of method claim 1. The additional feature of a federated network is not novel because D1 discloses the method being applied in the Internet, which is itself a federated network. Therefore, claims 2 and 34 fail to meet the requirements of Articles 33(1) and (2) PCT with respect to novelty.
3. The additional features of dependent claims 3, 7, 9, 15 and 36 are also disclosed in D1 and, consequently, cannot form the basis of another independent claim which meet the requirements of Article 33(1) and (2) PCT with respect to novelty:

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- claims 3 and 15: see discussion in sections V.1 and V.2;
- claims 7, 9 and 36: see D1 (page 9, lines 13-15).

4. Furthermore, it should be noted that even if novelty of claims 1-3, 7, 9, 15, 34 and 36 could be argued based on minor differences between the features of cited claims and those disclosed in D1, the subject-matter of claim 1-3, 7, 9, 15, 34 and 36 would not involve an inventive step (Articles 33(1) and (3) PCT), having regard to the disclosure of this document especially as it discloses the same object and the same type of solution.

5. Independent claim 26 does not meet the requirements of Articles 33(1) and (3) PCT because its subject-matter is not based on an inventive step.

D2 is regarded as being the closest prior art to the subject-matter of claim 26 and shows the following features thereof:

A method of operating a packet network providing a plurality of different service levels (page 6, lines 21-22), determining a class of service for packets, scheduling packets differently depending on the respective class of service (page 6, lines 21-25; page 13, lines 20-26).

This is a large part of the wording of present claim 26, the subject-matter of which therefore differs from the state of the art given by D2 in that:

- a) the determination of the class of service and the scheduling of the packets is carried out in a router.
- b) At a location remote, the class of service levels of packets is policed to determine the eligibility of a packet for a respective class of service.

Although a router is not disclosed explicitly in the mentioned section, D2 discloses (page 21, lines 1-5) routing outputs being generated by the same apparatus which schedules packets. Moreover, the feature of a router scheduling packets is well known in data communications networks and, as such, adds nothing of inventive significance (Articles 33(1) and (3) PCT).

Feature b) is trivial and is implicitly disclosed in D2 because if packets are scheduled differently depending on their class of service, they have to be assigned a class of service at another location.

6. The subject matter of independent apparatus claim 37 corresponds essentially to that of method claim 26. Therefore, the reasoning put forward above with respect to claim 26 also applies to claim 37, i.e. the subject matter of claim 37 is not based on an inventive step (Articles 33(1) and (3) PCT).
7. Independent claim 27 does not meet the requirements of Articles 33(1) and (3) PCT because its subject-matter is not based on an inventive step.

D3 is regarded as being the closest prior art to the subject-matter of claim 27 and this document discloses (see especially section 6.2 Fixed-wire Telephony Reconciliation, (2) Flat-Rate):

a method of operating a federated communications network comprising a plurality of network domains, the method including settling the inter-domain accounts by:
a) announcing, by the one domain, a price for receiving the data from the adjacent domain;
b) announcing, by the adjacent domain, a price for receiving the data from the one domain;

This is a large part of the wording of present claim 27. The subject-matter of claim 27 therefore differs from the state of the art given by D3 in that:

- a) both domains announce also a price for transmitting to the other domain.
- b) an edge price is calculated from the difference between the price of receiving from B to A and the price of transmitting from A to B.

The telephone network operators disclosed in D3 do not announce a price for transmitting because the simple rule in international telephone calls is that a carrier only pays for outcoming traffic and receives payment for incoming traffic. The feature of a price of transmitting adds nothing of inventive significance to (Articles 33(1) and (3) PCT) the disclosure of D3.

Although an edge price is not explicitly calculated in D3, the settlement is carried out according to the difference in charges between outgoing and incoming circuit cost. This method is equivalent to accumulate costs of calls based on edge prices and, consequently, not inventive (Articles 33(1) and (3) PCT).

Claim 27 does therefore not meet the requirements of Articles 33(1) and (3) PCT.

8. The additional features of dependent claims 4-6, 8, 10-14, 16-25, 28, 30, 35 and 39 do not add anything of inventive significance (Articles 33(1) and (3) PCT) to the independent claims on which they depend, being either obviously derivable from the prior art documents or common design measures for a person skilled in the art:
 - claims 4-6, 8, 12 and 14: common design procedures;
 - claims 10, 11, 13: derivable from D1 (page 11, lines 9-25) and D4 (4.2.1 Traffic Granularity, second paragraph);
 - claims 16, 17: derivable from D3 (6.2 Fixed-wire Telephony Reconciliation);
 - claims 18 and 35: disclosed in D4 (4.2.1 Traffic Granularity, first paragraph);
 - claim 19: Disclosed in D2 (page 6, lines 15-21; page 12, lines 21-27);
 - claim 20: disclosed in D4 (4.7 Coordination among Transit Carriers, third paragraph);
 - claim 21: derivable from D4 (4.5 Dynamic Capacity);
 - claim 22: derivable from D4 (1.2 Accounting in Packet Switched Internets, right-hand column, first paragraph);
 - claims 23-25: See discussion in Item V.5 of the present report.
 - claim 28: common design measure well known (e.g. see D4, 1.2 Accounting in Packet Switched Internets, right-hand column, first paragraph) to a person skilled in the art;
 - claims 30 and 39: trivial features.
9. The subject-matter of independent claims 29 and 31 is based on common design procedures well-known to the skilled person and their additional features do not introduce anything of inventive significance, being either derivable from the prior art or common design procedures. These claims are therefore not based on an inventive step (Articles 33(1) and (3) PCT).

- a) claim 29: The whole method of establishing a data flow and making a payment for that data flow is obvious to a skilled man based on his common general knowledge and also common sense. The feature of the clearing entity is considered to be novel but, as discussed in Item V.8 of the present report (with respect to claim 20) is not inventive (Articles 33(1) and (3) PCT).
- b) claim 31: obvious design procedures.

Re Item VII: Certain defects in the international application

- 1. The independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
- 2. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
- 3. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1-D4 is not mentioned in the description, nor are these documents identified therein.
- 4. The phrase "incorporated here by reference" on pages 1 (line 9) and 6 (line 18) should have been deleted as the application should be self-contained; such referenced documents are not regarded as part of the disclosure unless they contain matter essential to the invention, in which case the subject-matter in question would have to be incorporated into the description. This however is not the case here (see PCT Guidelines II-4.17).
- 5. Figures 2a and 2b do not show the component objects of a charging architecture.
They therefore do not correspond to the description on pages 4 and 10-15.
- 6. "Figure 8" on page 24 (line 4) should be "Figure 13". Some reference numerals of figure 13 and corresponding text (81, 82, 83) have been already used referring to

different features in figure 8. Figure 13 and corresponding text should have therefore been amended.

Re Item VIII: Certain observations on the international application

1. The plurality of independent claims in the method category (claims 1, 2, 26, 27, 29, 31 and 38), comprising in part varying combinations of features and in part various different formulations and terminology, renders the set of claims as a whole not clear and concise.

The same statement is valid for the corresponding apparatus claims 33 and 34 referring to a customer terminal.

Moreover, the total lack of consistency between the independent claims in defining the essential features of the invention makes it impossible for a third party to determine the scope of protection sought.

Hence, independent claims 1, 2, 26, 27, 29, 31-34, 37 and 38 do not meet the requirements of Article 6 PCT.

In order to overcome this objection, it would have appeared appropriate to file an amended set of claims defining the relevant subject-matter preferably in terms of one independent claim in each category followed by dependent claims covering features which are merely optional (Rule 6.4 PCT), whereby the independent claims are consistent as regards the essential technical features of the invention.

2. The term "without" in independent claim 37 implies a **disclaimer**, i.e. a feature which is excluded from the scope of protection of the claim. This leads to unclarity in the interpretation of the intended scope of protection (Article 6 PCT; see also PCT Guidelines, Section IV, Chapter III-4.12). In the present case, it would have appeared appropriate to define the claim only by means of positive features.
3. Claim 38 contains references to the description and the drawings. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here. Claim 38 should therefore have

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been deleted.

4. Claims 32 and 33 do not specify any technical feature needed to define the invention and, as a result, do not meet the requirements of Article 6 PCT and Rule 6.3(a) PCT, as all independent claims must specify the essential technical features of the invention.
5. "34 to 35" in dependent claim 36 should be "34 or 35" (Rule 6.4(a) PCT).
6. The term "customer" in claim 39 lacks an antecedent when dependent on claim 26 (Article 6 PCT).